

CHAPTER 9: HAZARD IDENTIFICATION (HI)

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CHAPTER 9: HAZARD IDENTIFICATION

1. INTRODUCTION

This chapter provides guidance information and suggested procedures for performing successful hazard identification at DOE Federal employee worksites.

A comprehensive hazard identification program is necessary to:

- Improve continuously DOE Federal worker safety and health.
- Determine the status of DOE compliance with safety and health requirements.
- Assess the performance of line management oversight of the FEOSH program.

Hazards can be identified using many methods, including hazard analyses (e.g., job safety analysis and comprehensive safety and health surveys), accident investigations, routine self-assessment, and inspections. This chapter touches on all these methods.

Whenever possible, hazard identification should be integrated with related self-assessment programs covering the environment, nuclear safety, safeguards and security, and other disciplines.

2. HAZARD ANALYSES

Informal Hazard identification and analysis can be formal or informal. Frequently, hazard identification is more effective when performed informally by supervisory and non-supervisory employees during the course of daily work activities, with appropriate technical assistance from safety and health professionals. The worker should be the person most likely to recognize potential hazards.

Formal Formal hazard analyses can include job safety analysis (JSA), nuclear safety analysis, process hazard analysis, comprehensive safety and health surveys, and investigation of employee suggestions or complaints.

Job Safety Analysis JSAs are step-by-step analyses of each job component and existing or potential hazards. They should be performed by supervisors and workers and supplemented by the safety and health staff. JSAs should be performed initially for all operations and then updated as operations change.

JSAs are the most basic and widely used tool to identify job and task hazards and prevent accidents before they occur. JSAs can satisfy a large portion of the hazard identification tasks at a facility. These analyses are appropriate for dynamic activities and tasks, such as construction projects; however, static work environments are also appropriate for using JSAs. Quick completion time and limited resource allocation make JSAs a very adaptable and widely used hazard identification technique.

A JSA is performed by breaking down a job into its component steps and then

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examining each job component to determine hazard and accident causes or those that may potentially occur. Reviewing the job steps and hazards while the employee performs the job will ensure that a comprehensive and accurate list of hazards is identified and documented. Consideration must be given to job mobility, area of performance, ongoing operations in surrounding areas, specific hazards in the area, relative age of the workforce and job experience, applicable safety and health rules, and recognition of abnormal or unforeseen problems.

JSAs benefit new employees by providing a basis for them to perform their jobs. Likewise, experienced employees also benefit by undergoing a safety awareness “reality check” on their job.

Following are the steps that comprise the JSA process:

1. Develop a list of all the jobs at your facility; group the jobs (e.g., job title or function).
2. Prioritize the job risks based on occurrence severity and probability. Make a high-risk job list.
3. Conduct an initial JSA on the highest-priority job.
4. Determine which methods should be used for the JSA (e.g., discussions with employees, direct observation of work by safety and health professionals, videotaping, or a combination of methods).
5. Select an employee to assist in conducting the JSA.
6. Dissect and define each task involved with the job.
7. Perform the JSA and complete a JSA worksheet for each job.
8. Evaluate the JSA worksheet and develop solutions to reduce or eliminate discovered hazards. Write or modify procedures to accomplish this task.

When a JSA is completed, it should be reviewed by a qualified person who was not part of the process.

Detailed information about conducting JSAs can be found in DOE 76-45/19 SSDC-19, “Job Safety Analysis,” and DOL, Mine Safety and Health Administration Safety Manual No. 5, “Job Safety Analysis.”

Analysis During Design and Development

Hazards that are identified during the design phase of new facilities and facility modifications should be eliminated or controlled through design or procedure changes. This also applies to hazards identified during the development or modification of procedures. The controls implemented should be commensurate with the identified risk levels. Hazards that pose a serious threat to employee safety and health should be either completely eliminated or effectively controlled.

Proposed design or procedure modifications that are intended to eliminate or control hazards should be reviewed by OSH professionals to ensure that the

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change adequately addresses the hazard and does not introduce new workplace hazards. Alternative control measures should be evaluated to determine risk reductions provided by each measure and to identify the most effective practical control for the hazard.

When engineering controls do not reduce the associated risk to acceptable levels, they may be supplemented with work practices and administrative controls. Where necessary, these controls may be further supplemented with appropriate PPE (see Section 3 of this Chapter).

Analysis of Equipment, Products, and Services

Hazards should also be addressed when selecting or purchasing equipment, products, and services. Provisions should be made for evaluating pre-engineered or “off-the-shelf” equipment prior to selection and purchase. This evaluation should focus on whether the worker can perform required tasks with the equipment or procured material without endangering the health and safety of workers, considering existing facility and operational constraints. Evaluation methods may include:

- Review of equipment or material specifications.
- Observations of equipment or material demonstrations.
- Analyses of change.
- Analyses of operational hazards.
- Analyses of ergonomic/human factors.
- Quality assurance checks for suspect or counterfeit parts for critical safety-related components.

Considerations to be taken into account when reviewing equipment specifications include:

- health hazards
- operating noise
- temperature levels
- point-of-operation guards
- lockout provisions
- presence of hazardous material
- training requirements for safe operation
- ergonomic design, worker/machine interface
- maintenance requirements
- availability and practicality of “add-on” (post-purchase) safety equipment

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- existing facility and operational constraints (e.g., floor loading, hazards from adjacent operations, congested workplaces, etc.)

After installation of complex or potentially hazardous equipment, a pre-startup evaluation should be conducted by affected workers, supervisors, and OSH professionals to verify safe conditions and identify any previously unforeseen hazards.

3. USING THE INFORMATION

Collecting information about existing and potential hazards is only the first step in the hazard identification process. Once hazards have been identified, the associated data must be evaluated to assess exposure potential and determine whether there are certain trends that should be addressed. Usually, a wealth of data is available from various resources (injury/illness reports, inspection findings, accident investigation reports, employee concerns, workers compensation data, etc.). It is important to maintain hazard information in such a way that the data can be tracked and trended to determine the root causes of safety and health problems. For example, if several workers at the same site suffer similar injuries during a given period, can these injuries be tracked back to a common cause (faulty equipment, inadequate training, poor work practices, etc.)?

Many facilities have formal corrective action tracking systems that employ computer databases to record and manipulate data about existing hazards, root causes, abatement activities, and schedules. Information from these databases can be used as performance indicators to demonstrate the success of the facility's hazard abatement program. Hazard analysis processes do not need to be formal, but it is essential that you have some means of evaluating hazard information. Your goal should be to go beyond determining what hazards exist and get to the "bottom line" of why they exist.

CAIRS Database

To assist in data management, DOE maintains the Computerized Accident and Incident Reporting System (CAIRS). The CAIRS accident and incident information is issued in summary reports entitled, *Occupational Injury and Property Damage Summary*. The quarterly reports are the "rolled-up" performance statistics of injuries, illnesses, and property damage recorded by DOE and its contractors during a 3-month period throughout the Complex. The data recorded by DOE are compared with relevant statistics from businesses in private industry performing similar activities. Ad hoc queries can also be made to tailor analyses to specific sites.

4. ACCIDENT INVESTIGATIONS

Accident investigations are conducted to uncover hazards that were either missed during earlier inspections or are present because of inadequate controls. Another objective is to identify the casual factors associated with the accident, so that both

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the hazards and the casual factors can be controlled and future occurrences prevented. The process concludes with the issuance of a final report with recommendations for corrective action and follow-up to ensure closure.

The essential elements of an accident investigation follow:

- Establishing effective investigation and communication procedures.
- Selecting knowledgeable impartial experts who ideally should include one individual from another area with similar operations.
- Collecting and preserving physical evidence prior to its being moved.
- Interviewing initially the eyewitnesses at the accident scene.
- Determining and documenting the facts.
- Determining the casual factors by analysis.

Developing recommendations (actions needed to prevent recurrence) • Following-up to ensure closure.

The accident investigation should fully cover and explain the technical elements of the causal sequences and should also describe the management system that should have, or could have, prevented the occurrence. Where feasible, the response to the interviews should be documented and included as backup. The basic questions to be answered during the interview are who, what, when, where, why, and how.

Facts must be clearly distinguished from opinions, other expectations, or the investigators. The latter can be included in the report's findings and recommendations for corrective action. Remember the goal of an accident investigation is to improve an organization's ability to maintain a safe workplace, not to place individual blame.

Supervisors and others who investigate accidents should be responsible for clearly documenting the causes uncovered during the investigation. Supervisors should be careful to avoid the tendency to lay sole blame on an injured employee. In most cases where human error is involved, there is often a managerial deficiency involving procedures, training, or staffing levels. Even if the injured worker openly blames him- or herself, the accident investigator must not be satisfied that all contributing causes have been identified. For more information about accident investigations, see DOE Order 225.1 and DOE Form 5483.3.

5. SELF-ASSESSMENTS

DOE Federal facilities are responsible for periodically evaluating the management systems that support their safety and health programs. For DOE elements, the self-assessment process should include analyses of the effectiveness of safety and health policies, programs, and procedures and the efficiency of processes and functions that sustain these programs. Self-assessment activities should be integrated both vertically and horizontally within the line organization to ensure a comprehensive top-to-bottom self-assessment process.

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Daily Walkthroughs Self-assessments can be as simple as “walking your spaces.” Workers and supervisors can police their own work areas, periodically conducting informal safety inspections, and noting hazardous work conditions or activities. Checklists are helpful to focus attention to particular areas (e.g., electrical hazards, fire exits and extinguishers, ladders, and walking/working surfaces). The two most important considerations are to be vigilant about performing these walkthroughs and ensure that any noted deficiencies are acted upon.

6. INSPECTORS

Inspectors must be competent to identify and recommend abatement techniques for potential workplace hazards. Industrial area inspections should be accomplished by safety and health professionals with training and experience in recognizing hazards in the types of work spaces to be inspected. Inspections of less complex hazards may be conducted by individuals with documented training and experience in identifying the types of hazards that will be encountered in such environments. This provides an opportunity for supervisors to walk their spaces.

Equipment Inspectors should be provided with the necessary PPE and monitoring/test equipment for the work environment being inspected.

Security Clearance Inspectors should have security clearance and documentation to allow them unimpeded access to all work sites.

7. TYPES OF INSPECTIONS

There are many types of inspections and inspection activities that can improve employee safety and health in the workplace. They range from inspections by supervisors and employees in their work areas to ensure that equipment and work areas are safe to a more formal external look at the work environment.

Formal or annual inspections are supplemented by informal identification of deficiencies by professionals when they are in the work area for other reasons. The deficiencies should be handled in the same manner as those identified during the formal inspection activities.

Compliance Inspections Inspectors should inspect forward high-risk and problem areas. All work areas should be formally inspected at least annually. Frequency should be sufficient to identify and abate hazardous conditions.

The objective of the inspection program is to improve employee working conditions through systematic identification and abatement of hazards. Hazards may not relate directly to a violation of a safety and health standard.

Employee Concerns Inspectors should investigate employee concerns of alleged unsafe or unhealthful working conditions. These conditions must be inspected within 24 hours for imminent danger situations, within 3 days for potentially serious allegations, and within 20 days for all other

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conditions.

A computer-based inspection management system can be helpful in scheduling inspections, tracking abatements, tracking inspection results, and targeting inspection activities in high-risk or identified problem areas. A personal computer (PC) based MS-DOS program, the Safety Assessment/Facility Evaluation (SAFE) System, is available by calling (301) 903-6456. This program is free and may be beneficial to your organization in managing your inspection program. **Appendix 13-2** gives details.

8. CONDUCTING INSPECTIONS

It is crucial that the inspection process be viewed as a beneficial activity. Inspections must be a common-sense, practical application of standards and work practices that will eliminate physical hazards from the workplace.

Prior to any inspection, **Preparation** inspectors should review the following items to identify areas that should receive special emphasis or be targeted for inspection.

- previous inspection trends
- injury/illness records
- employee complaint files
- facility modification/alteration records
- work process or procedure changes
- equipment needed for the inspection

Inspection checklist(s) **Checklist** serve as memory joggers to ensure a thorough inspection. They should be small (fit in your pocket), short, and to the point. Checklists may include suggested sample size, areas by types of operations requiring special attention, records to be received, reminders of interviews to conduct, or special programs to be conducted. They are not a substitute for thoroughness and professional knowledge. To ensure adequacy of inspection coverage, they are a useful inspector tool. They should not be used to limit the scope of the inspection.

Checklists should be developed by the inspector to fit the inspector's individual style and should be reviewed and revised frequently. Functional Area inspection checklists may require more detailed requirements than an equipment or facility inspection checklist. See **Appendix 9-1** for a sample inspection checklist. Other checklists (e.g., a checklist for evaluating occupational exposures to hazardous chemicals in laboratories) are available by contacting the DOE FEOSH Program Office at (301) 903-3638.

Prior to entering **Introduction** perform an inspection, the inspector should introduce himself/herself to the person in charge. The inspector should give the manager sufficient time to assemble the personnel he or she wishes to be present at the opening conference, including employee representative(s) as well as other supervisors, employees, collateral

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duty safety or health personnel, etc.

Once everyone is assembled, the inspector should explain the purpose of the inspection, set the tone for the inspection (non-adversarial), and determine special requirements (e.g., protective equipment or security restrictions, the mechanics of the report, posting, and abatement procedures). The following points should be used either as overhead transparencies for the conference or as a pocket checklist to ensure that all pertinent aspects of the inspection are covered.

OPENING CONFERENCE GUIDANCE

- Introductions
- Inspection Purposes
- Tone Setting
- Logistics

• of Engagement (ROE)

IE SETTING

Not a “Black” Hat

Not a “White” Hat

Be a “Green” Hat

- arm length
- professional
- courtesy

ES OF ENGAGEMENT

Area PPE Requirements

Area Special Security Requirements

Any Special “LABOR” Requirements

Any Special Safety Hazards in the Area

Who Will Receive the Report

Posting and Abatement Procedures

Employee Representative If the inspector is not an industrial hygienist and notes an area that requires sampling to validate working conditions, the relevant facts should be recorded; and a referral should be made to an industrial hygienist for professional follow-up and/or monitoring.

Work Environment Monitoring If the inspector is not an industrial hygienist and notes an area that requires sampling to validate working conditions, the relevant facts should be recorded; and a referral should be made to an industrial hygienist for professional follow-up and/or monitoring.

Inspection Teams If possible, a multi-disciplinary team (e.g., industrial hygiene, fire protection, radiation safety, etc.) approach should be used in performing the inspections. This will ensure more thorough coverage of facilities.

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in a single inspection.

Inspecting Familiar Facilities

at one end of the facility and proceed methodically through each work area, storage area, and transition space. It is important that the inspector be methodical to ensure that familiarity does not lead to complacency. A mental grid pattern should be used to ensure full coverage, for example, starting in the upper left rear corner of the room, moving top-to-bottom-to-top, progressing left to right, and moving toward the front of the room. This is sometimes referred to as the stop and look method. It is much more effective than randomly looking around the room. Look over, under, behind, and in all areas.

Inspecting Unfamiliar Facilities

Typical inspection can be very beneficial in determining the effectiveness and degree of compliance with the requirements for regulated functional areas such as confined space, lockout/tagout, laboratory safety, respiratory protection, exposure records, etc. The common denominator for these programs is that they all require the employer to develop a written implemented program. The inspector should note areas of most/least concern and utilize this information to plan and pace the detailed inspection. Then proceed to inspect as described for familiar facilities.

Actions of these areas should include the opening and closing conference and the other attributes of a typical compliance inspection. They differ in the following aspects:

First, the inspector will grade the written program against the requirements and then grade the implementation against the written program.

The inspection may encompass numerous facilities, programs, and management or employee representatives; a consolidated opening and closing conference may be beneficial.

Because of documentation to be reviewed, personnel to be interviewed, and geographical areas to be covered, the inspection will normally take longer.

Inspecting Functional Areas

A text report style may be more beneficial than traditional violation tickets. Many of the internal evaluation criteria can and should be applied to these types of inspections.

Recording Results

Inspector should record both the positive and negative items noted during the inspection. All notes should be openly discussed with management and employee representatives who accompany the inspector.

Using pictures of both good and bad practices can be beneficial in providing feedback to supervisors and employees on hazard recognition.

After evaluate and trend inspection results, it is helpful to record the number of items checked versus the number of items found deficient. For example, "ten exit doors checked and eight were propped open" or "ten fire extinguishers checked and only one needed a 30-day inspection."

Imminent Danger

If inspector determines that a condition could cause immediate death or physical harm, the inspector informs the person in charge to shut down the part of the operation causing the exposure or removes the

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personnel until the hazard is abated.

At the conclusion of the inspection, the inspector discusses the preliminary results of the inspection with management and employee representatives. This includes both positive and negative findings and the relative seriousness of the deficiencies. Official report and deficiency abatement timeframes and procedures should be determined, and violation posting requirements should be reviewed. There should be no surprises at this point and no disagreement with the findings. The following tips and questions are provided to help the closeout conference proceed smoothly and effectively.

SEOUT CONFERENCE TIPS

Be prepared to face high-level, highly specialized people.

Consider taking your own backup personnel in controversial situations.

Keep communications clear and concise.

Control your emotions.

Keep matters in perspective.

Proceed from “good” to “bad” in the presentation.

Avoid harsh and threatening language.

Confront controversial issues in briefing that will be raised in the final report.

10 QUESTIONS TO END CLOSEOUT CONFERENCE

Do you think our findings and conclusions are valid?

Do you think you have been treated fairly?

Inspectors should make notes on any items brought to their attention by management or employee representatives during their closeout briefing, such as additional facts, disagreement resolutions, and conditions beyond control of the inspected individuals. **Appendix 9-2** provides an example of an Inspection Closeout Letter.

REPORTS

Inspection reports provide management with a summary of results, undesirable and noteworthy trends, and a risk assessment associated with each hazard (see Section 4, Chapter 13). The report should transmit notices of unsafe or unhealthful working conditions. See **Appendix 9-3** for a sample inspection report.

The inspection form can be used effectively for such notices; it provides uniform recording of information, captures pertinent corrective action/abatement data, and can be used to post the violation notice. When the form is manifolded with multiple copies, post it and provide the necessary copies for dispensing, etc.

Notices should be issued formally 15 days after the safety condition inspections and no later than 30 days for health condition inspections. The notices should be posted at the infraction site for 3 days or until abated.

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Reports of unsafe or unhealthful working conditions should be mailed to the facility or workplace official and the employee representative. Safety and health committees, if they exist, should be provided with a copy.

INTERNAL REPORTS

Providing employees with a mechanism to report safety and health concerns quickly and easily is an excellent way to gather information on actual or potential worker hazards. Employees are encouraged to inform supervisors of any safety and health concern; however, employees may go to higher management or OSHA with the safety and health concern.

Employee concerns should be documented in writing either by the person making the complaint or the person receiving the report. Employees submitting the concern may request anonymity.

Individual case files should be established for each concern. File coding will ensure that the identity of the individual is protected. See **Appendix 9-4** for a sample case file log.

Responding to Concerns Employees submitting reports must meet the reporting requirements associated with the OSHA and OWCP forms. Federal agencies, under 29 CFR Part 1960.28, "Employee Reports of Unsafe or Unhealthful Working Conditions," must also maintain a log of all existing reports or potential unsafe or unhealthful work conditions at each establishment. A copy of each report alleging an unsafe or unhealthful work condition must be sent to the appropriate site safety and health committee.

In addition, a sequentially numbered case file, coded for identification, is assigned to each report alleging an unsafe and unhealthful working condition. Furthermore, the agency's response to the situation must be documented. Each log should contain the following information: date, time, code/file number, location of condition, brief description of the condition, classification (serious, non-serious, imminent danger), and date and nature of action taken.

An employee submitting an unsafe or unhealthful condition report should be notified in writing within 15 days if the agency determines that a hazard does not exist and an inspection will not be conducted. In addition, a copy of this notice must be sent to the appropriate certified safety and health committee.

Inspection Requirements Elements must inspect conditions of imminent danger within 24 hours. They must inspect potentially serious conditions within 3 working days and other-than-serious allegations within 20 days.

After notifying the safety and health committee, the hazardous condition can be abated immediately, no inspection is necessary. ☐

APPENDIX 9-1

CHECKLIST

	Yes		No	N/A
	<input type="checkbox"/>	Is the DOE FEOSH poster displayed in a prominent location where all employees are likely to see it?	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	Are signs concerning fire and emergency escape routes, room capacities, or floor loading posted where appropriate?	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	Is the Summary of Occupational Illnesses and Injuries (OSHA No. 200) posted in the month of February?	<input type="checkbox"/>	<input type="checkbox"/>
rfaces	Yes		No	N/A
	<input type="checkbox"/>	Are floors, aisles and passageways kept clean, dry and all spills cleaned immediately?	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	Are carpets kept tight so they will not develop rolls or bunch up?	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	Are office areas uncluttered, without excessive accumulation of paper or other combustible material?	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	Are floor receptacle boxes located where they may cause tripping hazards?	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	Is sufficient space (room) provided in office areas between desks and other furniture, and adjacent to doors to facilitate exit into hallways?	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	Are electric and phone cords run across aisles or passageways?	<input type="checkbox"/>	<input type="checkbox"/>

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<input type="checkbox"/>	Are stair rails or handrails provided on all stairways?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Are holes in the floor or other walking surfaces repaired properly, covered or otherwise made safe?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Are changes of direction or elevations readily identifiable?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Is adequate headroom provided for the entire length of any aisle or walkway?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Are all work areas properly illuminated?	<input type="checkbox"/>	<input type="checkbox"/>

Electrical Safety

APPENDIX 9-1

No	N/A			
<input type="checkbox"/>		Are flexible cords and cables used permanently as a substitute for fixed wiring?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		Are all appliances plugged directly into receptacles?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		Is all equipment connected by cord and plug (i.e., fans, space heaters, typewriters, microwaves, coffee pots, etc.) provided with grounded connections?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		Are power strips or surge protectors overloaded, plugged in series or not used in accordance with the manufacturer's recommendations?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		Have exposed wires, frayed cords, and deteriorated insulation been repaired or replaced?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		Are junction boxes, receptacles, and switches provided with tight-fitting covers or plates, hence not exposing wires or conductors?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		Are flexible cords and cables run through holes in walls or ceiling or through doorways and windows?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		Are flexible cords and cables free from splices or taps?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		Are multiple-plug adapters used?	<input type="checkbox"/>	<input type="checkbox"/>
Yes			No	N/A
		Are sprinkler heads kept		

c

APPENDIX 9-1

<input type="checkbox"/>	Clearance of storage material, where the clearance between sprinkler heads and the top of storage is at least 18 inches?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Are fire doors unobstructed and protected against obstructions?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Are all doors that must be passed through to reach an exit or way to an exit always free to access with no possibility of a person being locked inside?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Are all fire extinguishers fully charged and in their designated places?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Are extinguisher locations free from obstructions or blockage?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Are all exit routes always kept free of obstructions?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Are portable fire extinguishers provided in adequate number and type?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Have all extinguishers been serviced, maintained, and tagged at intervals not to exceed one year?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Are all extinguishers checked monthly to see if they are in place or if they have been discharged?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Are fire extinguishers mounted in readily accessible locations?	<input type="checkbox"/>	<input type="checkbox"/>

Yes

No

N/A

Are exits marked with an exit sign and illuminated

b
y

APPENDIX 9-1

<input type="checkbox"/>	a reliable light source?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Is the direction to exits, when not immediately apparent, marked with visible signs?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Are doors, passageways or stairways, that are neither exits nor access to exits and which could be mistaken for exits, appropriately marked "NOT AN EXIT," STOREROOM," etc?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Are there sufficient exits to permit prompt escape in case of fire or other emergency?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Are there doors which are required to serve as exits designed and constructed so that the way of exit travel is obvious and direct?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Are exit doors openable from the direction of exit travel without the use of a key or any special knowledge or effort when the building is occupied?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Where exit doors open directly onto any street, alley or other area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees from stepping into the path of traffic?	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Is emergency lighting in stairways, hallways and other work areas tested periodically to determine if they are in operable condition?	<input type="checkbox"/>	<input type="checkbox"/>
	Are dead bolts affixed to exit doors?		

APPENDIX 9-1

☐ ☐
☐

Are door stops installed on exit doors?

☐
☐
☐

Do smoke barrier doors close properly?

☐
☐

ay Terminals)

Yes

No

N/A

☐

Have ergonomics evaluations been conducted for:

☐
☐
1. **Monitor** and

document arrangements:

- positioned too high or too low
- positioned too close or too far away
- are not height adjustable ☐
- are too difficult to see/read

☐
☐
2. **Lighting/glare:**

- ambient light is too bright or too dim
- task lighting is needed
- glare is visible on the monitor ☐
- operator faces uncovered window/uncovered light source

☐
☐
3. **Workstations** and

accessories:

- work surface is crowded or too small
- keyboard or work surface is too high or too low
- hand/wrist rests on hard/sharp edge ☐
- hand/wrist rests on palm rest while keying

☐
☐
4. **Work area:**

- the work area restricts body movement
- causes reaching/twisting/bending/awkward positions
- an anti-fatigue

mat/footrail/footrest is needed but unavailable

5

Input dev

APPENDIX 9-1



- contribute to non-neutral wrist/elbow/shoulder positions
- require excessive force to activate
- cannot be repositioned
- require awkward static positions
- require excessive reaches



6. Environmental



issues:

- the room temperatures are too hot or too cold
- walls or dividers do not minimize noise
- equipment noise is not isolated
- the workstation is located in a crowded area

- the workstation is not separated from walkways•
Has an ergonomics evaluation been conducted for **seating** arrangements to determine if the seats:



- lack a back rest which is separated from the seat pan
- lack adequate/adjustable lumbar support
- lack adequate/adjustable seat height
- lack appropriate/adjustable arm rests



Are employees



APPENDIX 9-1

instructed in
the proper
manner of
lifting heavy
objects?

- Has training been provided on how to adjust the work-station/seating?

• ☐ ☐ ☐

Communication**Hazardous Substances**

Yes No N/A

- Is there a list of hazardous substances used in your workplace?

• ☐ ☐ ☐

- Is there a written hazard communication program dealing with MSDSs, labeling, and employee training?

• ☐ ☐ ☐

- Is each container for a hazardous substance labeled with product identity and a hazard warning?

• ☐ ☐ ☐

- Is there a MSDS readily

• ☐ ☐ ☐

APPENDIX 9-1

available for
each hazardous
substance
used?

- Is there an employee training program for hazardous substances? • ☐☐☐

Sanitation**Yes No N/A**

- Are restrooms kept in clean and sanitary condition? • ☐☐☐
- Are covered receptacles for waste food kept in clean and sanitary condition? • ☐☐☐
- Are food and drinks stored, prepared, and consumed where chemicals and cleaning products are stored and used? • ☐☐☐

Medical Services and First**Yes No N/A****Aid**

- Are first aid supplies easily accessible to • •

APPENDIX 9-1

each work area,
with necessary
supplies
available,
periodically
inspected and
replenished as
needed?

☐☐☐ • Are medical
personnel readily
available for
advice and
consultation on
matters of
employee health?

☐☐☐

• Are emergency phone
numbers posted where they
can be readily found in case
of emergency?

• ☐☐☐

APPENDIX 9-2

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**Department of Energy**

Nevada Operations Office

P. O. Box 98518

Las Vegas, NV 89193-8518

MAY 10 1995

Dr. Darryl Randerson, Director, ARL/SORD, Las Vegas, NV
T. A. Vaeth, Acting Manager, DOE/NV, Las Vegas, NV
K. W. Powers, AAMA, DOE/NV, Las Vegas, NV
K. D. Izell, AMESSH, DOE/NV, Las Vegas, NV
J. K. Magruder, AMO, DOE/NV, Las Vegas, NV
L. G. Dever, AAMEM, DOE/NV, Las Vegas, NV

FORMAL COMPLIANCE INSPECTION--FEOSH PROGRAM CLOSEOUT

Reference: Ltr, Skousen to Multiple, dtd 8/5/95

In July 1994 the subject inspection was conducted. Fifty-four violations were found and all have been abated effective April 25, 1995. The violations and the verified abatements were entered into the Automatic Tracking System data base and closed. This inspection is officially closed.

If you have any questions, please contact Ruby A. Lopez-Owens, of my staff, at 5-1589.


Lester P. Skousen, Director
Safety Division

SD:RLO-95-134

cc:
R. A. Lopez-Owens, SD, DOE/NV,
Mercury, NV



Department of Energy

Nevada Operations Office
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AUG 5 1994

Dr. Darryl Randerson, Director, ARL/SORD, Las Vegas, NV
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FORMAL COMPLIANCE INSPECTION--FEDERAL EMPLOYEE OCCUPATIONAL SAFETY AND HEALTH PROGRAM

An unannounced Federal Employee Occupational Safety and Health Compliance Inspection was conducted on July 20 and 21, at DOE/NV, the Johnson Building, the Bungalow, and the Westwood Building. On July 26 and 27, an unannounced compliance inspection was conducted at NTSO and CP-1.

The inspection was conducted by Ruby Lopez-Owens, SD/OSB, and Walter Chung, RSN, in accordance with DOE Order 3790.1A. A physical walk-through, review of documentation, and employee interviews with both management and nonmanagement personnel was conducted.

Enclosed are the violations documented on the DOE/NV Self Assessment Program Inspection Report, Form NV-121, please submit them to your respective division directors. Supervisors are responsible for prompt posting of the inspection forms at or near each hazard for three working days or until the condition has been abated, whichever is longer.

Please provide a response within 30 days on the enclosed Form NV-121 regarding the corrective actions taken or an abatement for correcting the inspection violations. Abatement assistance is available from the team members, names and phone numbers are listed on the form.

The buildings were found in generally good condition, a summary of the violations are as follows:

- Supervisors are not conducting quarterly safety and health inspections of their areas, enclosed is a copy of the form which is to be used.
- Several portable heaters were found that do not shut-off when tipped over.

- Torn, frayed, and buckled carpet was found throughout the buildings which constitutes a tripping hazard.
- Fire extinguishers are not being inspected monthly.
- OSHA 200 log are not being properly completed/entered.
- First-aid kits were not readily accessible.

Interviews revealed that employees are aware of reporting and how to file an unsafe or unhealthful complaint. Ventilation was a concern for a lot of employees. Some employees were concerned that they have not been told where their designated assembly areas are for emergency evacuation. Some of the emergency lights did not work. Employees were very complimentary on the information they receive from the Safety and Health Committee. Enclosed is a copy of the questions which were asked at the employee interviews.

We wish to thank all of you for your cooperation and assistance. A special thanks goes to Michael Childers, NRSO member of the Safety and Health Committee, and Allen Barr, ARL/SORD, for participating in the inspection at these facilities.

If you have any questions, please contact Ruby Lopez-Owens, OSB/SD at 295-1559.


Lester P. Skousen, Director
Safety Division

OSB/SD:RLO-1409

Enclosures:

As stated

cc:
Walter Chung, RSN,
Las Vegas, NV, w/encs
R. A. Lopez-Owens, SD, DOE/NV,
Mercury, NV, w/o encs

INSTRUCTIONS

Team Member to Complete

1. RESPONSIBLE ORGANIZATION - Enter contractor name (REEC Co, EG&G/EM, DOE, etc.).
2. LOCATION - Be specific, e.g. NTS, Area 6.
3. BUILDING/ROOM - Self-explanatory (if outdoors, be as specific as possible).
4. RESPONSIBLE MANAGER - Enter highest level manager at location (Last name, Initials).
5. ORGANIZATION MANAGER - Enter name of highest level organization manager (Last name, Initials).
6. INSPECTOR/TELEPHONE No. - Print your name (Last name, Initials) and telephone number at team headquarters.
7. TEAM LEADER - Enter team leader's name (Last name, Initials).
8. RISK ASSESSMENT CODE - Enter code 1 through 10 based on your judgment.
9. STANDARD/CODE REFERENCE - If code or standard can be referenced, enter specific reference No.
(example: 29 CFR 1910.100 (a)) If no reference No. exists, finding can only be a BMP.
10. FINDING TYPE/PRIORITY - Enter F, V, or BMP; if F then enter A, B or C; if V then enter 1, 2 or 3 based on risk/severity.
FINDING RANKING: A = Priority 1 = Violation of statute, regulation, DOE or organizational policy that poses significant risk
B = Priority 2 = Violation of statute, regulation, or DOE policy with no significant risk
C = Priority 3 = Violation of organizational policy with no significant risk.
11. FUNCTIONAL AREA - Enter safety, fire, industrial hygiene, aviation, radiological, medical, explosives, firearms, or electrical safety.
12. ESTIMATED CORRECTION DATE - Enter date after discussion with responsible organization management. This establishes the suspense date for the abatement plan if corrective action isn't completed.
13. ACTUAL CORRECTION DATE - Leave blank.
14. STATUS - Open or closed.
15. DESCRIPTION - Provide detailed description of finding.

Responsible Organization to Complete

1. CORRECTIVE ACTION TAKEN/PLANNED - Describe corrective action taken or to be taken and/or any disagreement with finding. If it is action to be taken, provide corrective action and steps taken to protect employees in the interim.
2. MILESTONES - If corrective action is not complete at time of response, enter sequential action(s) to be taken and estimated completion dates for each action to fully implement stated corrective action.
3. STATUS - Enter status of milestones, date completed, date extended with justification, etc.
4. DOCUMENTATION & COMMENTS - Enter any documentation generated as a result of finding or any comments concerning corrective action.
5. CORRECTIVE ACTION TAKEN OR INCORPORATED INTO ABATEMENT PLAN -
Enter name of manager responsible for taking corrective action and/or developing abatement plan.

Team Leader

1. REVIEW AND SIGN DESCRIPTION, REVIEW FINDING PRIORITY.
2. CORRECTIVE ACTION VERIFIED - Sign and date for those violations or findings for which corrective action has been verified.

A = PRIORITY 1	1 = INJURY/DAMAGE RISK	3 - 8 = SIGNIFICANT
B = PRIORITY 2	2 = INJURY/DAMAGE RISK	9, 10 = LOW
C = PRIORITY 3	3 = DE MINIMUS	

DISTRIBUTION

ORGANIZATION: Original COMPUTER: Canary TEAM LEADER: Pink TEAM MEMBER: Gold
 NV-121 US/DOE
 5/91 NV

APPENDIX 9-4

FEOSH HANDBOOK

XXX: -3, Change 00: 00/00/00

INSPECTION AND ABATEMENT

**LOG OF DOE/NV EMPLOYEES' REPORTS OF
UNSAFE OR UNHEALTHFUL WORKING CONDITIONS**

[illegible]

Exhibit 3-6

Employee Complaint Case File Log

I&A 3-08-8